Note: Assessing all fields and metrics is strongly encouraged. Fields and metrics with ***** are the <u>minimum required</u> to propose a new EO. If doing the minimum, skip 'Calculate EIA Scores' on page 11. Contact <u>tynan.ramm-granberg@dnr.wa.gov</u> with questions.

*Site Name: _____ ***AA Name (if >1 AAs):** _____

<u>Classification</u> (EIA Manual pg. 28)   ***Manual Version #:** _____

Ecological System (S Rank):_____

*NVC Plant Association (G/S Rank): _____

*NVC Group (G/S Rank): _____

*Observer(s):_____*****Date:_____ County:_____

VegPlot(s):_____ TRS:_____ Photos:_____

EO ID:_____ SF ID: _____ Owner(s):_____

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10
*Spatial Coordinates										
System:_____										

*Sampling Strategy:	☐ Polygon AA (< 50 ha / 125 ac; site walkthrough)	☐ Polygon AA (< 50 ha / 125 ac; systematic relevés)	Other:
	☐ Point-Based AA	☐ Combined Point/Polygon AA (> 50 ha / 125 ac)	

*Plot Type:	☐ Relevé	☐ Site-Walkthrough	Plot Size / Dimensions:
	☐ Transect	☐ Other:	

*AA size (ac/ha):_____ ***<u>AA Description</u>** (see field form pg. 11 for additional space):

Environmental (pg. 30)   Soil Type:_____

*Topographic Position: *1=Interfluve (crest, summit, ridge),2= High slope (shoulder, upper), 3=Midslope, 4=Low slope (lower, colluvial foot), 5=Toeslope (alluvial foot/toe), 6=High level (mesa/plateau), 7=Step in slope (ledge; bench), 8=Low level (lake/river terrace), 9=Channel wall (sloping side of channel), 10=Channel bed (channel bottom), 11=Basin floor (depression), Other

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10
Slope (deg/%)										
Aspect (downslope)										
Topographic Position*										
Comments:										

Natural Disturbance Comments:

Anthropogenic Disturbance Comments:

Geology Comments:

Environmental Comments:

EIA Module:_____

*Species Cover (pg. 32)

Cover (midpt): Trace (**0.25**), 0-1% (**0.5**), 1-2% (**1.5**), 2-5% (**3.5**), 5-10% (**7.5**), 10-25% (**17.5**), 25-50% (**37.5**), 50-75% (**62.5**), 75-95% (**85**), >95% (**97.5**);
Strata Codes: C (tree canopy); **SC** (tree subcanopy > 5m); **SH** (shrub or tree 0.5 to 5m); **H** (herb or shrub < 0.5m); **G** (moss/lichen on soil surface)

Species	Stratum Code	Cover Class Midpoint Plots/Assessment Points/Sub-AAs 1-10										Avg. Cov.	Exo / Inv (E/I)	Diag (Y)	Incr / Decr (I/D)
		1	2	3	4	5	6	7	8	9	10				

Species Cover (pg. 32)

Cover (midpt): Trace (**0.25**), 0-1% (**0.5**), 1-2% (**1.5**), 2-5% (**3.5**), 5-10% (**7.5**), 10-25% (**17.5**), 25-50% (**37.5**), 50-75% (**62.5**), 75-95% (**85**), >95% (**97.5**);
Strata Codes: **C** (tree canopy); **SC** (tree subcanopy > 5m); **SH** (shrub or tree 0.5 to 5m); **H** (herb or shrub < 0.5m); **G** (moss/lichen on soil surface)

Species	Stratum Code	Cover Class Midpoint Plots/Assessment Points/Sub-AAs 1-10										Avg. Cov.	Exo / Inv (E/I)	Diag (Y)	Incr / Decr (I/D)
		1	2	3	4	5	6	7	8	9	10				

*Species Cover (pg. 32)

Cover (midpt): Trace (**0.25**), 0-1% (**0.5**), 1-2% (**1.5**), 2-5% (**3.5**), 5-10% (**7.5**), 10-25% (**17.5**), 25-50% (**37.5**), 50-75% (**62.5**), 75-95% (**85**), >95% (**97.5**);
Strata Codes: **C** (tree canopy); **SC** (tree subcanopy > 5m); **SH** (shrub or tree 0.5 to 5m); **H** (herb or shrub < 0.5m); **G** (moss/lichen on soil surface)

Species	Stratum Code	Cover Class Midpoint Plots/Assessment Points/Sub-AAs 1-10										Avg. Cov.	Exo / Inv (E/I)	Diag (Y)	Incr / Decr (I/D)
		1	2	3	4	5	6	7	8	9	10				

*Species Cover (pg. 32)

Cover (midpt): Trace (**0.25**), 0-1% (**0.5**), 1-2% (**1.5**), 2-5% (**3.5**), 5-10% (**7.5**), 10-25% (**17.5**), 25-50% (**37.5**), 50-75% (**62.5**), 75-95% (**85**), >95% (**97.5**);
Strata Codes: **C** (tree canopy); **SC** (tree subcanopy > 5m); **SH** (shrub or tree 0.5 to 5m); **H** (herb or shrub < 0.5m); **G** (moss/lichen on soil surface)

Species	Stratum Code	Cover Class Midpoint Plots/Assessment Points/Sub-AAs 1-10										Avg. Cov.	Exo / Inv (E/I)	Diag (Y)	Incr / Decr (I/D)
		1	2	3	4	5	6	7	8	9	10				

Landscape Context

LAN1 Contiguous Natural Land Cover (pg. 36)

Metric Rating	Percent Contiguous NLC (0 - 500 m)	Comments
EXCELLENT (A)		
GOOD (B)		
FAIR (C)		
POOR (D)		

LAN2 Land Use Index (pg. 39; use table below to calculate score, then check rank)

Worksheet : Land Use Categories	Weight	% Area (0 to 1.0)	Score
Paved roads / parking lots	0		
Domestic, commercial, or publicly developed buildings and facilities (non-vegetated)	0		
Gravel pit / quarry / open pit / strip mining	0		
Unpaved roads (e.g., driveway, tractor trail, 4-wheel drive, logging roads)	1		
Agriculture: tilled crop production	2		
Intensively developed vegetation (golf courses, lawns, etc.)	2		
Vegetation conversion (chaining, cabling, roto-chopping, clearcut)	3		
Agriculture: permanent crop (vineyard, orchard, nursery, hayed pasture, etc.)	4		
Intense recreation (ATV use / camping / popular fishing spot, etc.)	4		
Military training areas (armor, mechanized)	4		
Heavy grazing by livestock on pastures or native rangeland	4		
Heavy logging or tree removal (50-75% of trees >30 cm DBH removed)	5		
Commercial tree plantations / holiday tree farms	5		
Recent old fields and other disturbed fallow lands dominated by ruderal and exotic species	5		
Dam sites and flood disturbed shorelines around water storage reservoirs and boating	5		
Moderate grazing of native grassland	6		
Moderate recreation (high-use trail)	7		
Mature old fields and other fallow lands with natural composition	7		
Selective logging or tree removal (<50% of trees >30 cm DBH removed)	8		
Light grazing or haying of native rangeland	9		
Light recreation (low-use trail)	9		
Natural area / land managed for native vegetation	10		
		Land Use Index	

☐ EXCELLENT (A) Avg. LU score = 9.5 – 10	☐ GOOD (B) Avg. LU score = 8.0 – 9.4	☐ FAIR (C) Avg. LU score = 4.0 – 7.9	☐ POOR (D) Avg. LU score = < 4.0

EDGE

EDG1 Perimeter with Natural Edge (pg. 43)

☐ EXCELLENT (A) 100% 4 pts			☐ GOOD (B) 75-99% 3 pts			☐ FAIR (C) 25-75% 2 pts		☐ POOR (D) <25% 1 pt	
Assessment Pt. / Sub-AA	**1**	2	3	4	5	6	7	8	9	10
Metric Rating										

Comments:

EDG2 Width of Natural Edge (pg. 45)

☐ EXCELLENT (A) 4 pts; ≥ 100m			☐ GOOD (B) 3 pts; 75-99m			☐ FAIR (C) 2 pts; 25-75m		☐ POOR (D) 1 pt; <25m	
Assessment Pt. / Sub-AA	**1**	2	3	4	5	6	7	8	9	10
Metric Rating										
Average Width										

Comments:

*EDG3 Condition of Natural Edge (pg. 48; Small AAs ONLY; if surveying lines used for EDG2, score each line and then average)

☐ EXCELLENT (A) 4 pts		☐ GOOD (B) 3 pts		☐ FAIR (C) 2 pts		☐ POOR (D) 1 pt			
Assessment Pt. / Sub-AA	**1**	2	3	4	5	6	7	8	9	10
Metric Rating										

Comments:

Vegetation

(score at each sample point/sub-AA and enter numeric value (e.g. A = 4 pts), then average scores across sample points; roll-up of sub-AA scores should weight relative area of sub-AA to total AA area; check appropriate boxes for overall score)

*VEG1 Native Plant Species Cover (Relative) (pg. 50; calculate relative cover of each stratum at each sample point/sub-AA; Use stratum with lowest relative cover for metric rating). Relative cover = (native cover / native+nonnative cover)*100

☐ EXCELLENT (A) 4 pts; >99%		☐ VERY GOOD (A-) 3.5 pts; 95-99%		☐ GOOD (B) 3 pts; 85-94%		☐ FAIR (C) 2 pts; 60-84%		☐ POOR (D) 1 pt; <60%		
Assessment Pt. / Sub-AA	**1**	2	3	4	5	6	7	8	9	10	Avg
Trees *Native*											
Nonnative											
Total Cover											
VEG1a. Native Tree Relative Cover											
Shrub/Herb *Native*											
Nonnative											
Total Cover											
VEG1b. Native Shrub/Herb Relative Cover											
Metric Rating											

Comments:

VEG2 Invasive Nonnative Plant Species Cover (Absolute) (pg. 52)

☐ EXCELLENT (A) 4 pts; < 1%		☐ GOOD (B) 3 pts; 1-4%		☐ FAIR (C) 2 pts; 4-10%		☐ FAIR/POOR (C-) 1.5 pts; 10-30%		☐ POOR (D) 1 pt; >30%		
Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10	Avg
Metric Rating											

Comments:

VEG3 Native Plant Species Composition (pg. 53; based on vegetation table above)

☐ EXCELLENT (A) 4 pts		☐ GOOD (B) 3 pts		☐ FAIR (C) 2 pts		☐ POOR (D) 1 pt				
Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10	Avg
Submetrics: 3a Diagnostic Species											
3b Species diversity											
3c Native Increasers											
3d Native Decreasers											
Metric Rating											

Comments:

VEG4 Vegetation Structure (pg. 55; varies by EIA module; For Forest types, indicate the Stand Development Stage)

Stand development stage codes: cohort establishment (1); canopy closure (2); biomass accumulation/stem exclusion (3); maturation-eastside (4); maturation 1-westside (5); maturation 2-westside (6); vertical diversification-old growth (7); horizontal diversification-old growth (8); pioneer cohort loss-old growth (9).

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10
Stand Development Stage (Van Pelt)										

| ☐ EXCELLENT (A) 4 pts | | | ☐ GOOD (B) 3 pts | | ☐ FAIR (C) 2 pts | | | ☐ POOR (D) 1 pt | | |

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10	Avg
v7 Dry Forests & Woodlands; v8 Mesic / Hypermaritime Forests											
Submetrics: 7/8a Canopy Structure (age class diversity)											
7/8b Old/Large Live Trees											
Metric Rating											
v9 Shrublands											
Submetrics: 9a Shrub Cover											
9b Tree Encroachment											
Metric Rating											
v10 Shrub-Steppe; v11 Grasslands / Meadows											
Submetrics: 10/11a Woody Vegetation Cover											
10/11b Bunchgrass Cover											
10/11c Biological Soil Crust											
Metric Rating											
v12 Bedrock / Cliffs (no submetrics)											
Metric Rating											

Comments:

VEG5 Woody Regeneration *(v2 Dry Forests & Woodlands; v3 Mesic / Hypermaritime Forests)* (pg. 63)

☐ EXCELLENT (A) 4 pts		☐ GOOD (B) 3 pts		☐ FAIR (C) 2 pts			☐ POOR (D) 1 pt		

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10	Avg
Metric Rating											

Comments:

VEG6 Coarse Woody Debris and Snags (pg.65)

☐ EXCELLENT (A) 4 pts		☐ GOOD (B) 3 pts		☐ FAIR (C) 2 pts			☐ POOR (D) 1 pt		

Assessment Pt. / Sub-AA	1	2	3	4	5	6	7	8	9	10	Avg
V3 Dry Forests & Woodlands; V4 Mesic/Hypermaritime Forests & Woodlands											
Submetrics: V6v3/4a CWD Size Diversity											
V6v3/4b. CWD Decay Class Diversity											
V6v3/4c. Snag Size Diversity											
V6v3/4d. Snag Decay Diversity											
Metric Rating											
V5 Shrublands; Grassland / Meadows											
Submetrics: V6v5a. Litter Accumulation											
V6v5b. Litter Source											
Metric Rating											

Comments:

Soil / Substrate

*SOI1 Soil Condition v3 (pg. 77)

☐ EXCELLENT (A) 4 pts		☐ GOOD (B) 3 pts		☐ FAIR (C) 2 pts			☐ POOR (D) 1 pt		
Assessment Pt. / Sub-AA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Avg**
Metric Rating											

Comments:

Size

SIZ1 Comparative Size (Spatial Pattern) (pg. 79)

☐ EXCELLENT (A) 4 pts	☐ GOOD (B) 3 pts	☐ FAIR (C) 2 pts	☐ POOR (D) 1 pt

Spatial Pattern Type: _____   Estimated Size (ac/ha):_____

Comments:

SIZ2 Change in Size (optional) (pg. 81)

☐ EXCELLENT (A) 4 pts	☐ GOOD (B) 3 pts	☐ FAIR (C) 2 pts	☐ POOR (D) 1 pt

Comments:

AA Description (Continued):

Roll-up Calculations	Rating	Score (TABLE 1)
LAN1. Contiguous Natural Land Cover		
LAN2. Land Use Index		
LAN MEF Score = (LAN1+LAN2)/2 (TABLE 2)		
EDG1. Perimeter with Natural Edge		
EDG2. Width of Natural Edge		
EDG3. Condition of Natural Edge (do not include in calculation if not scored)		
EDG MEF Score = $(((EDGF1*EDG2)^{1/2})*EDG3)^{1/2}$ [Note: ½ exponent = square root] (TABLE 2)		
LANDSCAPE CONTEXT PRIMARY FACTOR SCORE = (EDG Score*0.67)+(LAN Score*0.33) (TABLE 2)		
Matrix = (EDG Score*0.33)+(LAN Score*0.67) Large-Patch = (EDG Score*0.50)+(LAN Score*0.50) Small-Patch = (EDG Score*0.67)+(LAN Score*0.33)		
VEG1. Native Plant Species Cover		
VEG2. Invasive Nonnative Plant Species Cover		
VEG3. Native Plant Species Composition		
VEG4. Vegetation Structure		
VEG5. Woody Regeneration		
VEG6. Coarse Woody Debris		
(FORESTED) VEG MEF Score=((0.4*((VEG1+VEG2+VEG3)/3))+(0.6*((VEG4+VEG5+VEG6)/3)))(Table 2)		
(NONFORESTED) VEG MEF Score = (VEG1+VEG2+VEG3+VEG4+VEG5+VEG6)/6 (Table 2)		
[Note: Divide by number of metrics scored (i.e. divide by four if VEG1-VEG4 scored)]		
SOI1. Soil Condition		
SOI MEF Score = SOI1		
CONDITION PRIMARY FACTOR SCORE = (VEG Score*0.85)+(SOI Score*0.15) (TABLE 2)		
ECOLOGICAL INTEGRITY (EIA) SCORE (TABLE 2) Matrix/Large-Patch = (CONDITION SCORE*0.55)+(LANDSCAPE CONTEXT SCORE*0.45) Small-Patch = (CONDITION SCORE*0.7)+(LANDSCAPE CONTEXT SCORE*0.3)		
SIZ1. Comparative Size		
SIZ2. Change in Size (optional)		
SIZ MEF Score = SIZ1 OR (SIZ1+SIZ2)/2 (TABLE 2)		
SIZE Points (TABLE 3)		
ELEMENT OCCURRENCE RANK (EORANK) = EIA Score + SIZE Points (TABLE 2)		

Table 1. Metric Rank / Score Conversions

Rank	A	A-	B	BC	C	C-	D
Score	4	3.5	3	2.5	2	1.5	1

Table 2. Score / Rank Conversions for MEF, EIA and EORANK calculations

Rank	A+	A-	B+	B-	C+	C-	D
Score	3.8 - 4.00	3.5 - 3.79	3.0 - 3.49	2.5 - 2.99	2.0 - 2.49	1.5 - 1.99	1 - 1.49

Table 3. Point Contribution of Size Primary Factor Score (Average the two values for range ranks)

Size Primary Factor Rating	Very Small/Small Patch	Large Patch	Matrix
A = Size meets A ranked rating	+ 0.75	+ 1.0	+1.5
B = Size meets B ranked rating	+ 0.25	+ 0.33	+0.5
C = Size meets C ranked rating	- 0.25	- 0.33	-0.5
D = Size meets D ranked rating	- 0.75	-1.0	-1.5

Determine Whether AA Meets EO Criteria

EO RANK / State Rank	Global Rank: G1S1, G2S1, GNRS1, GUS1	G2S2, GNRS2, G3S1, G3S2, GUS2	GUS3, GNRS3, G3S3, G4S1, G4S2, G5S1, G5S2, any SNR	G4S3, G4S4, G5S3, G5S4, G5S5, GNRS4, GNRS5, GUS4, GUS5
A+ (3.8 to 4.0)	EO	EO	EO	EO
A- (3.5 to 3.79)	EO	EO	EO	EO
B+ (3.0 to 3.49)	EO	EO	EO	Not Element Occurrence
B- (2.5 to 2.99)	EO	EO	EO	Not Element Occurrence
C+ (2.0 to 2.49)	EO	EO	Not Element Occurrence	Not Element Occurrence
C- (1.5 to 1.99)	EO	Not Element Occurrence	Not Element Occurrence	Not Element Occurrence
D (1.0 to 1.49)	EO	Not Element Occurrence	Not Element Occurrence	Not Element Occurrence

GENERAL NOTES: